The patient is a 68-year-old man who had heterotopic heart transplantation (HHTx) performed 8 years ago for ischemic dilated cardiomyopathy. The patient presented for noninvasive evaluation of transplant cardiac function and patency of anastomotic connections. A contrast-enhanced 3D-magnetic resonance angiogram (MRA) was performed, and the data reconstructed using a 3D volume-rendering technique on a commercially available workstation (Figure). A movie file of the 3D-MRA is available as an online-only data supplement available at http://www.circulationaha.org.

Anterior view of heterotopic heart transplant 3D-MRA. Oxygenated blood cavities and vessels have been colored red, and deoxygenated blood structures have been colored blue. The native (arrow) and transplant (*) hearts are seen in red. The HHTx’s aorta (arrowhead) is anastomosed end-to-side to the native aorta; the HHTx’s pulmonary artery (double arrowhead) is similarly anastomosed end-to-side to the native main pulmonary artery. The HHTx’s pulmonary artery is small as a result of limited blood flow through the anastomotic stenosis at the tricuspid valve level.
3D-Magnetic Resonance Angiogram of Heterotopic Heart Transplant
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